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Design and Construction, p. 41-80

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2. DETERMINATION OF THE HEIGHT OF HEAD AND TAIL WALLS

The variation between the height of the BOOK at the spine and the height of the BOOK at the fore-edge must be taken into account when making the following measurements. Allowance must also be made for the various flaps that fold over and take up space.

Head Wall "A": Height equals height of the book at the spine and height of the BOOK at the fore-edge (tapering between the two measurements)

Tail Wall "B": Height equals height of the BOOK at the spine and height of the BOOK at the fore-edge (tapering between the two measurements) plus 1 thickness of BOARD

Mark these measurements on the BOARD and extend lines to the edges of the board, forming walls A and B. (Remember that the creases do take up a small amount of space and allowance must be made for this.) See diagram 14.

IMPORTANT NOTE: Flaps #1 and #2 must extend at right angles from the outer edge of side walls "A" and "B". Using a straight edge and triangle, extend lines from these points before determining the outer limits of the flaps.

3. DETERMINATION OF THE OUTER LIMITS OF THE FLAPS
See diagram 14.

Flap #1: Length equals length of BASE BOARD minus 1 thickness of BOARD

Flap #2: Length equals 1/3 length of the BASE BOARD

Mark these measurements on the BOARD and extend lines to the edges of the board.

4. CUTTING THE VERTICAL PIECE OF BOARD

Using a board shears or a knife and a straight edge, cut out the vertical piece of BOARD.

B. MEASURING AND CUTTING THE HORIZONTAL PIECE OF BOARD

Place the BOOK on the inside of another piece of BOARD, with the tail of the BOOK flush with the bottom edge of the BOARD. Roll the BOOK to the left and right to check that the BOARD is large enough. Remove the BOOK. Place the vertical piece of BOARD over the horizontal piece of BOARD, with the fold line at the tail of the BASE BOARD area of the vertical piece of BOARD even with the bottom edge of the horizontal piece of BOARD and in a position which will allow sufficient margins for the flaps. Place a weight on it. See diagram 15.

1. DETERMINATION OF THE BASE BOARD AREA

Make a mark on the horizontal piece of BOARD along the spine and fore-edge of the vertical piece of BOARD. Extend the fold line at the head of the BASE BOARD area of the vertical piece of BOARD onto the horizontal piece of BOARD, making sure that the line is parallel to the bottom edge of the horizontal piece of BOARD. Cut along this line. Make a second set of marks 1/16" to the outside of the marks at the spine and fore-edge. (This allows for clearance of the ridge created by the crease.) Working with a straight edge and triangle, extend this second set of marks to the edges of the BOARD, making sure that the lines are perpendicular to the edges of the BOARD. See diagram 15 . This marks the BASE BOARD area of the horizontal piece of BOARD.

2. DETERMINATION OF THE HEIGHT OF THE FORE-EDGE AND SPINE WALLS

The variation between the height of the book at the spine and the height of the book at the fore-edge must be taken into account when making the following measurements. Allowance must also be made for the various flaps that fold over and take up space and for the thickness of the vertical piece of BOARD, which will be adhered to the inside of the horizontal piece of BOARD.

Fore-edge Wall "C": Height equals height of BOOK at fore-edge plus 3 thicknesses of BOARD

Spine Wall "D": Height equals height of BOOK at spine plus 4 thicknesses of BOARD

Mark these measurements on the BOARD and extend lines to the edges of the board, forming walls C and D. (Remember that the creases do take up a small amount of space and allowance must be made for this.) See diagram 15.

IMPORTANT NOTE: Flaps #1 and #2 must extend at right angles from the outer edge of side walls "A" and "B". Using a straight edge and triangle, extend lines from these points before determining the outer limits of the flaps.

3. DETERMINATION OF THE OUTER LIMITS OF THE FLAPS
See diagram 15.

Flap #3: Width equals width of BASE BOARD minus 1 thickness of BOARD

Flap #4: Width equals width of BASE BOARD

Mark these measurements on the BOARD and extend lines to the edges of the board.

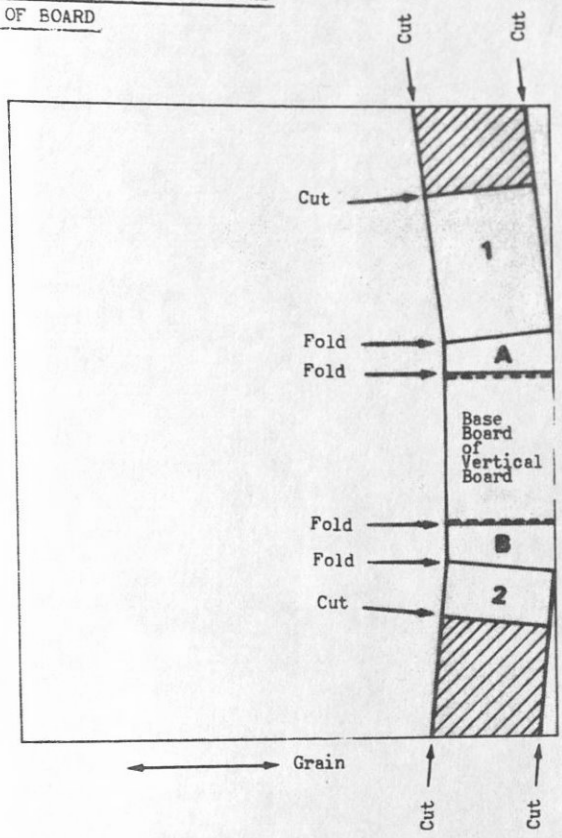
4. CUTTING THE HORIZONTAL PIECE OF BOARD

Using a board shears or a knife and a straight edge, cut along the lines marking the outer limits of the flaps.

Continue with the directions for the REGULAR PHASED BOX (TWO-BOARD CONSTRUCTION), Section II. ROUNDING THE CORNERS OF THE TWO PIECES OF BOARD.

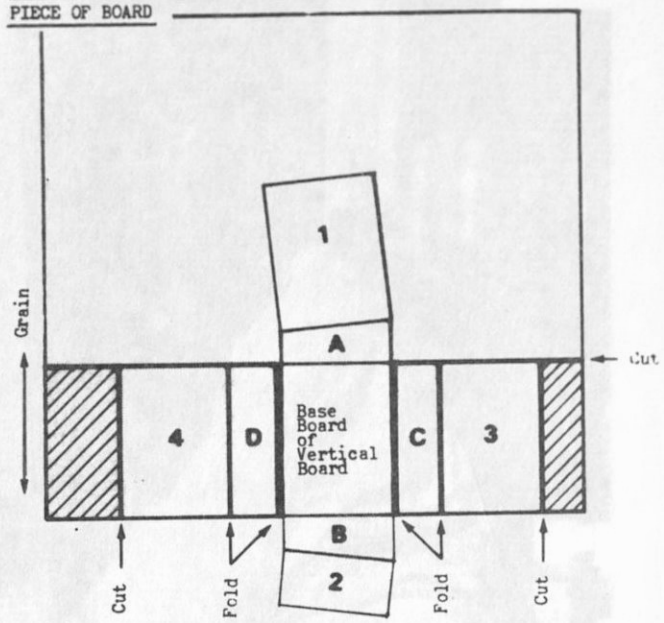
MEASURING AND CUTTING VERTICAL PIECE OF BOARD

III-14



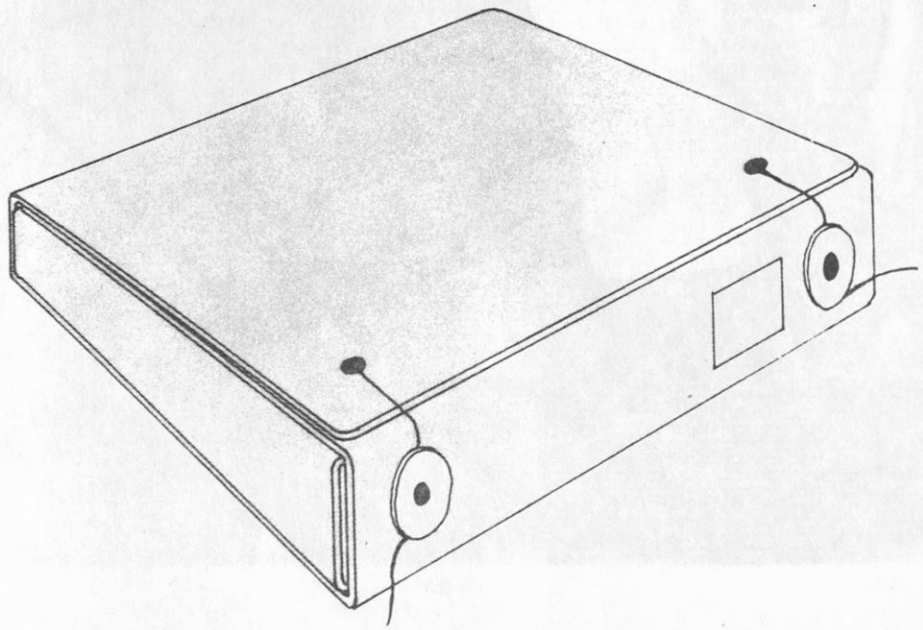
MEASURING AND CUTTING HORIZONTAL PIECE OF BOARD

III-15



III-16

COMPLETED WEDGE-SHAPED PHASED BOX (TWO BOARD CONSTRUCTION)



III-17

PORTFOLIO (Stiffened Flaps, One-Piece Covering)

This portfolio has stiff board flaps and is covered with one piece of covering material. The portfolio is held together with attached pairs of ties or, alternatively, a pull may be attached to the fore edge side in order to remove the portfolio from a slipcase or a box. Flap 1 always folds over first making sure there is uniform pressure on the item(s) within the portfolio. Also if Flaps 2 were to be turned in first, often a line of discoloration will form on the material in the portfolio where the two flaps butt and pressure may create a ridge in that material. Closing Flap 1 first is encouraged by lining both the Base Board and Flap 1 in material that contrasts with the covering material. Lining these boards with conservation quality material insures that the enclosed item(s) is properly protected.

The listing of materials used in making this portfolio follows.

ADHESIVE:	An internally-plasticized polyvinyl acetate aqueous emulsion
BOARD:	Any neutral pH or alkaline board of suitable durability and permanence
COVERING MATERIAL:	Starch-filled Buckram
LINING MATERIAL:	Hand-made paper of neutral color or "Permalife" paper or Felt of neutral color
TIE or PULL MATERIAL:	Ribbon or other strong flexible material which does not fray easily

Before constructing a PORTFOLIO certain basic decisions must be made about the thicknesses of the various components of the PORTFOLIO, which relate to the size and the weight of the material to be enclosed. A MEASURING KIT (See General Information) of the various combinations of the boards, coverings and linings should be made for ease of measuring throughout the construction of the PORTFOLIO. Note that the board used for the BASE BOARD, FLAPS and WALL BOARDS is the same thickness. Once these materials have been chosen, carry out the following steps as designated in the Operational Sequence.

OPERATIONAL SEQUENCE:

I. BASE AND FLAP BOARDS OF PORTFOLIO

A. MEASURING AND CUTTING BOARDS

II. WALL BOARDS OF PORTFOLIO

A. MEASURING AND CUTTING WALL BOARDS

III. COVERING TECHNIQUE OF PORTFOLIO

A. CUTTING COVERING MATERIAL

B. GLUING OUT AND ATTACHING COVERING MATERIAL

C. ATTACHING INSIDE CORNER PIECES

D. CUTTING OUTSIDE CORNERS AND TURNING IN

IV. ATTACHING PULLS OR TIES

A. PULL

B. TIES

V. LINING THE INTERIOR OF THE PORTFOLIO

I. BASE AND FLAP BOARDS OF PORTFOLIO

A. MEASURING AND CUTTING BOARDS

See diagram #1. Note that there is one BASE BOARD and four FLAPS numbered 1, 2, 2 and 3. Cut four boards the BASE BOARD size. Accurate cutting to give 90° angles at corners is essential.

1. BASE BOARD

Length, head to tail:	Length of material to be enclosed plus 1/8" (See V 4)
Width, spine to fore-edge:	Width of material to be enclosed plus 1/8" (See V 4)
	Cut four boards.

2. FLAP BOARDS

Take 3 of these boards and trim to the following measurements:

a. FLAP #1

Length, head to tail:	BASE BOARD length measurement minus 2 thicknesses of board
Width, spine to fore-edge:	BASE BOARD width measurement minus 2 thicknesses of board

b. FLAP #2

Length, head to tail:	BASE BOARD length measurement minus 1/8" (This produces snug-fitting flaps when the PORTFOLIO is closed.)
Width, spine to fore-edge:	BASE BOARD width measurement minus 1 thickness of board
	Next cut the length of this board in half, creating two FLAPS

Note taper on spine and fore-edge sides of Flap 2. Cut flaps to conform to this shape trimming not more than 1/8" from outer corners and tapering to nothing at inner corners. See diagram #1.

c. FLAP #3 (TOP FLAP) — TOP FLAP BOARD is the same measurement as the BASE BOARD.

d. CORNER TIPS of FLAPS
Slightly sand outside corners of all FLAPS, removing sharpness of corner tips

II. WALL BOARDS OF PORTFOLIO

A. MEASURING AND CUTTING WALL BOARDS

See diagram #1. Note WALL BOARDS A, B, & C.

1. WALL BOARD A

Length: Equal to head-to-tail measurement of FLAP #1

Height: Equal to the height of the material to be held within the PORTFOLIO or larger to allow for additional material to be added in the future -
plus 2 thicknesses of LINING MATERIAL
plus 3 thicknesses of COVERING MATERIAL

Cut one BOARD.

2. WALL BOARD B

Length: Equal to spine-to-fore-edge measurement of BASE BOARD minus 1 thickness of BOARD

Height: Equal to height measurement of WALL BOARD A
plus 1 thickness of BOARD
plus 2 thicknesses of COVERING MATERIAL

Cut two BOARDS.

3. WALL BOARD C

Length: Equal to head-to-tail measurement of BASE BOARD

Height: Equal to height measurement of WALL BOARD A
plus 2 thicknesses of BOARD
plus 4 thicknesses of COVERING MATERIAL

Cut one board.

III. COVERING TECHNIQUE OF PORTFOLIO

A. CUTTING COVERING MATERIAL

The outside of the PORTFOLIO is covered with one piece of COVERING MATERIAL. The dimensions of this piece are:

Length: Length of the BASE BOARD
plus lengths of FLAPS #2
plus height of WALL BOARDS B
plus width of four joints
plus 3"

Width: Width of the BASE BOARD
plus widths of FLAPS 1 & 3
plus heights of WALL BOARDS A & C
plus width of four joints
plus 3"

Cut one piece of COVERING MATERIAL.

B. GLUING OUT AND ATTACHING COVERING MATERIAL

1. DETERMINATION OF JOINT WIDTH

See diagram #2. The correct width of the joint is hard to determine accurately. The following dimension is a minimum measurement, and through experience more accurate measurements will be found.

JOINT width: Equal to the thickness of BOARD used in CASE plus 5 thicknesses of COVERING MATERIAL (Note BOARD and COVERING MATERIAL that was glued together for the MEASURING KIT.)

2. GLUING OUT AND ATTACHING COVERING MATERIAL

Glue out the COVERING MATERIAL and adhere the BASE BOARD, FLAPS and WALL BOARDS to the COVERING MATERIAL as shown in diagram #1. Using the Sample Kit "Joint Width" board to determine the width of the joints.

Note the placement of WALL BOARDS and FLAPS.

a. WALL BOARD A and corresponding FLAP #1 are centered in relationship to the BASE BOARD.

b. WALL BOARDS B and FLAPS #2 are also centered in relationship to the BASE BOARD.

Do not turn in the COVERING MATERIAL.

3. TRIMMING AND CUTTING THE ATTACHED COVERING MATERIAL

Trim the excess COVERING MATERIAL away so that the turn-ins are the same width. See diagram #2.

Cut the COVERING MATERIAL at the four inside corners extending the cut right up to the corners of the BASE BOARD. See diagram #2.

C. ATTACHING INSIDE CORNER PIECES

These CORNER PIECES, made from the COVERING MATERIAL, are designed to conceal the four exposed corner tips of the BASE BOARD. Make sure these CORNER PIECES cover the thickness of the BASE BOARD and are pressed down firmly into the appropriate joints.

Cut these four L-shaped pieces with their widths equal to the width of the turn-in and their lengths extending to the far edge of each WALL BOARD. See diagram #2.

Glue CORNER PIECES into place. See diagram #2.

D. CUTTING OUTSIDE CORNERS AND TURNING-IN

The COVERING MATERIAL at the eight outside corners is now cut as shown in diagram #3.

Complete the turn-in of the PORTFOLIO by re-gluing the exposed COVERING MATERIAL and turning in. All turn-ins marked "X" (diagram #2) are turned in first.

IV. ATTACHING PULL OR TIES

For each PORTFOLIO there is a choice of attaching a PULL or pairs of TIES. If the PORTFOLIO is to be placed within a STANDARD RARE BOOK BOX or a slipcase, then it is appropriate to attach a PULL. In this way the PORTFOLIO can easily be removed from the PORTFOLIO SLOT within the BOX. If the PORTFOLIO is thought of as a separate item, then TIES are appropriate fasteners.

A. PULL

A PULL is made of ribbon or tape folded over on itself and inserted through a slit in the BASE BOARD 1/2" in from the fore-edge and centered in relation to it.

1. ATTACHMENT OF THE PULL

A cut is made from the outside of the covered BASE BOARD, using a dovetail chisel (bevelled sides) making a cut fractionally wider than the PULL.

Insert the cut end of the folded ribbon or tape into the slit, pare away some of the thickness of the BOARD to recess the PULL, and glue it to the inside of the BASE BOARD.

B. TIES

TIES of ribbon or tape are attached in pairs and tied in a bow to keep the PORTFOLIO closed. Depending on the size of the PORTFOLIO, there can be one, two or four pairs of TIES. See diagram #4.

1. ATTACHMENT OF TIES

Two cuts are made for each pair of TIES.

One cut is made from the outside of the TOP FLAP 1/2" from the fore-edge using a dovetail chisel (bevelled sides) making a cut fractionally wider than the TIES.

The second cut is made from the outside of the BASE BOARD opposite the first cut also 1/2" in from the edge.

Insert ribbons or tapes in the slits, pare away some of the thickness of the BORAD to recess the TIES, and glue them to the inside of the BASE BOARD and the TOP FLAP.

Attach as many TIES as are appropriate for the size of the PORTFOLIO.

V. LINING THE INTERIOR OF THE PORTFOLIO

COVERING MATERIAL is used to line FLAP 2 & 3 and corresponding WALL BOARD B & C extending onto the BASE BOARD by approximately 3/4". Also a strip of COVERING MATERIAL covers WALL BOARD A extending approximately 3/4" onto the BASE BOARD and FLAP 1.

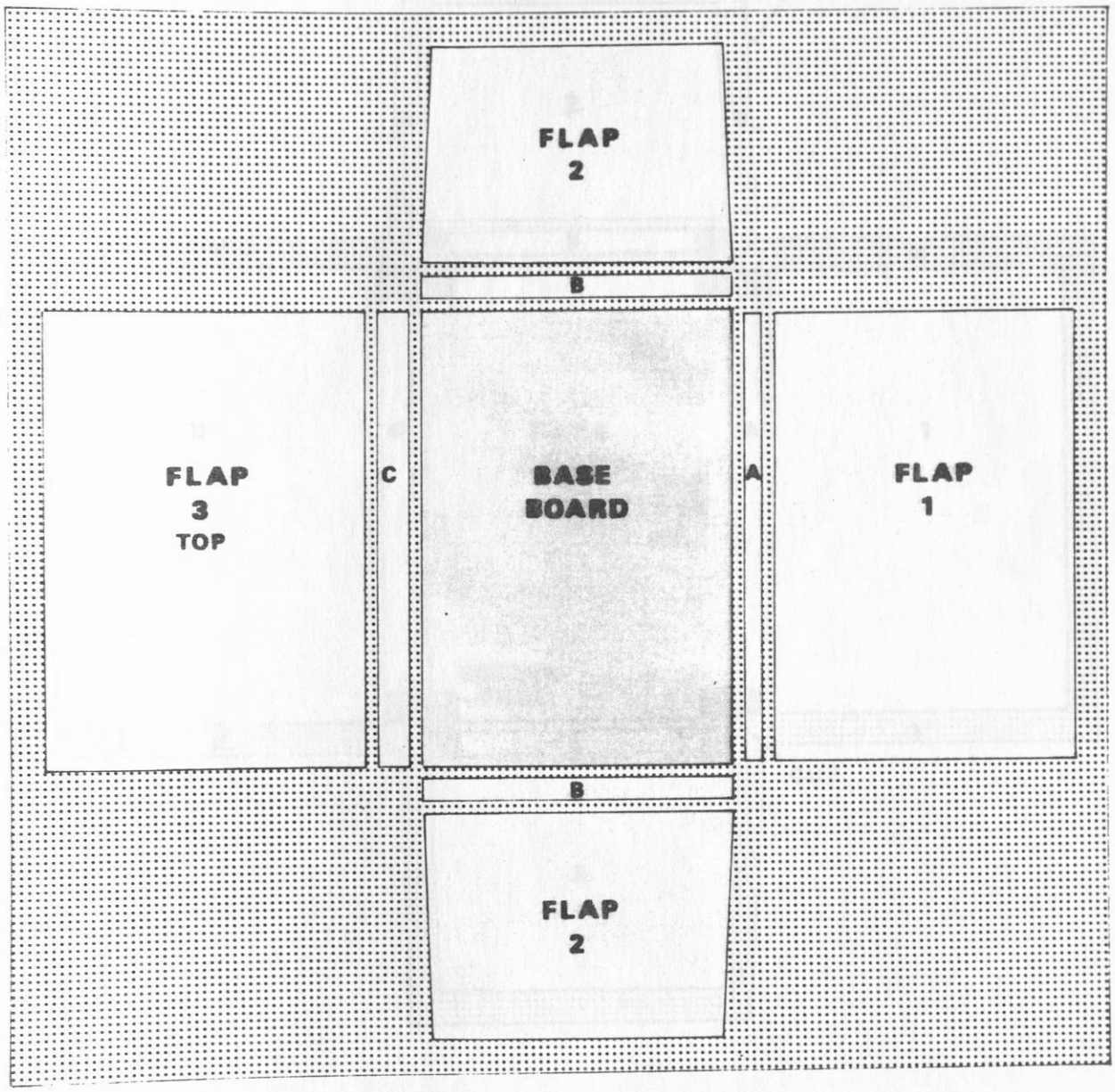
The pieces of COVERING MATERIAL are cut to within 1/16" of outer edges of the FLAPS. See diagram #5. Note that where these pieces of COVERING MATERIAL meet at athe corners of the BASE BOARD, 45° angles are cut in order to have the material butt instead of overlap. And the COVERING MATERIAL extending from WALL BOARD A over onto FLAP 1 has 45° angle cuts made at the head and tail.

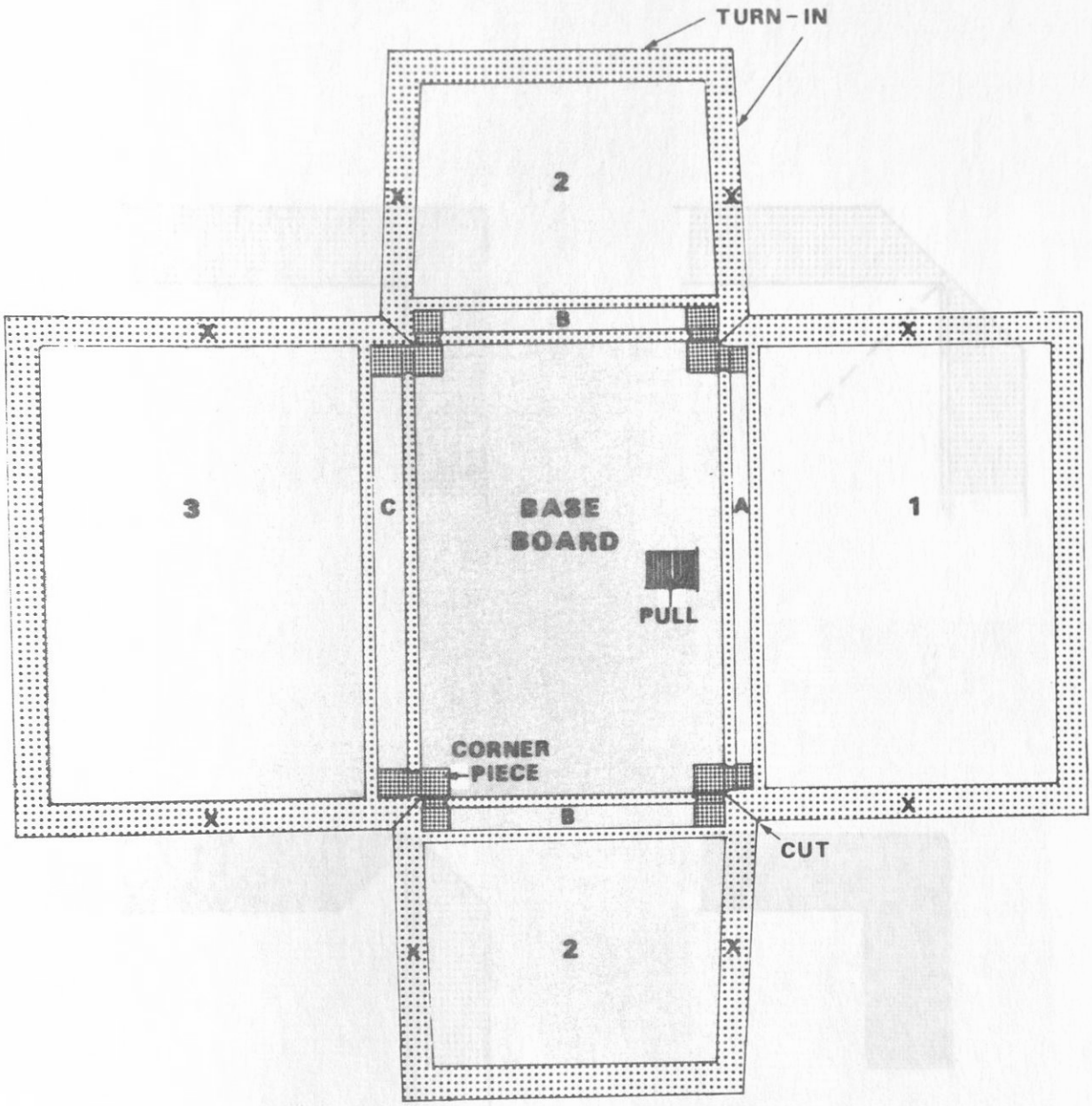
FLAP 1 and the BASE BOARD are lined in a different material such as paper or felt which will be in contact with the enclosed item(s). Remember that FLAP 1 is always folded over first in closing the PORTFOLIO; so haveing the BASE BOARD and FLAP 1 lined in the same material aids the reader in closing the PORTFOLIO correctly. See diagram #6.

At times the material within the PORTFOLIO is of sufficient fragility or thickness that it becomes necessary to also cover the WALL BOARDS with the LINING MATERIAL. (Remember that the joints will still be covered with the COVERING MATERIAL.) If these WALL BOARDS are lined, the original BASE BOARD length and width must be each increased by 2 thicknesses of LINING MATERIAL.

BASE AND FLAP BOARDS OF PORTFOLIO

Illustration of placement of BOARDS onCOVERING MATERIAL



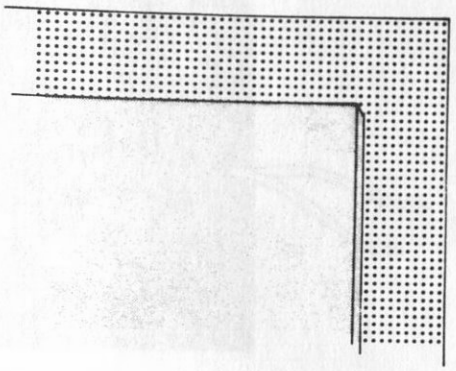


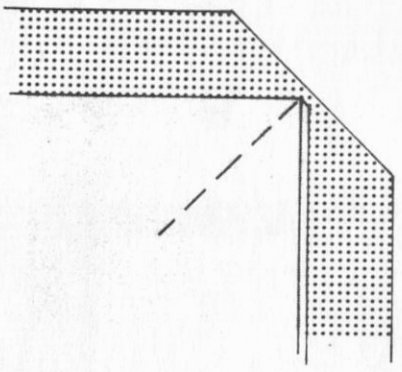
BOARDS adhered to COVERING MATERIAL, CORNER PIECES adhered to BASE BOARD, and COVERING MATERIAL trimmed for turn-ins

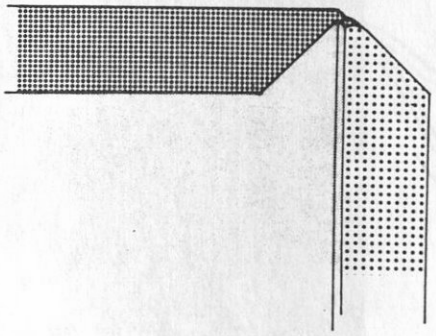
COVERING TECHNIQUE OF PORTFOLIO

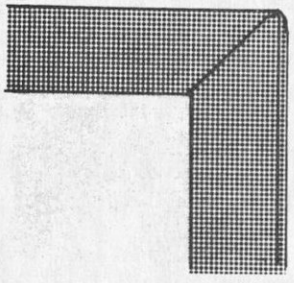
IV - 3

Instructions for cutting and turning in COVERING MATERIAL of outside corners.



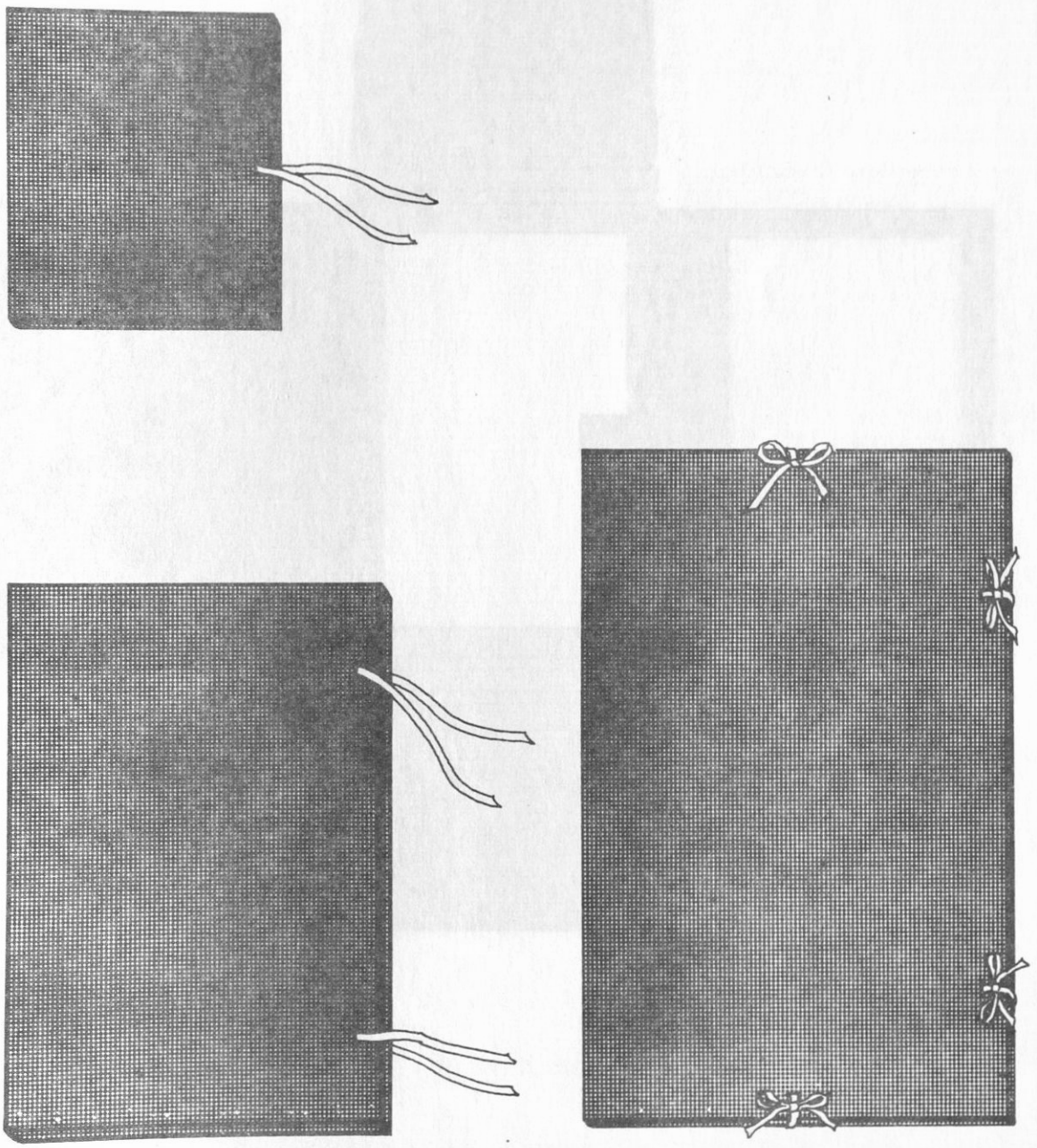






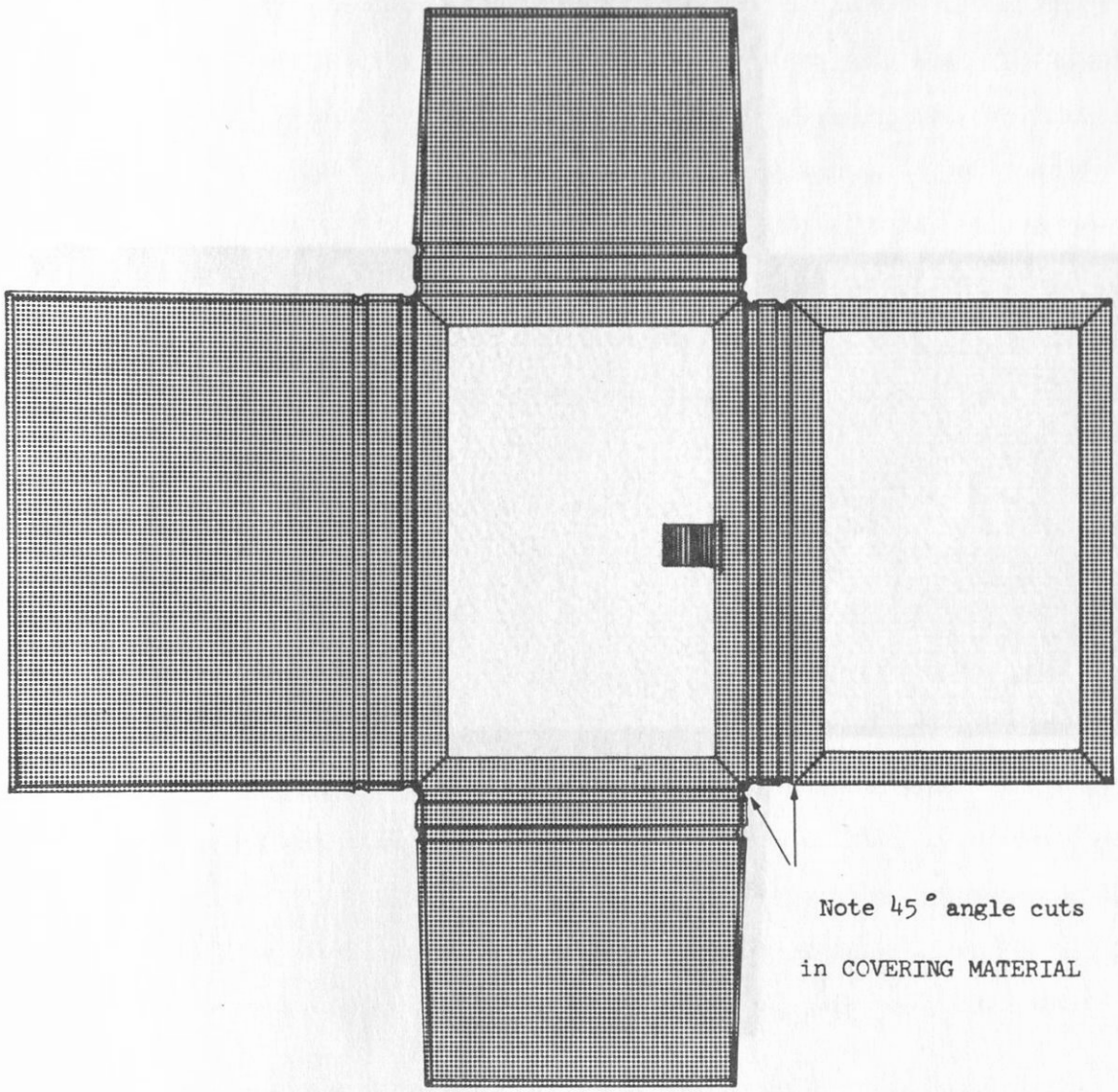
TIES OF PORTFOLIO

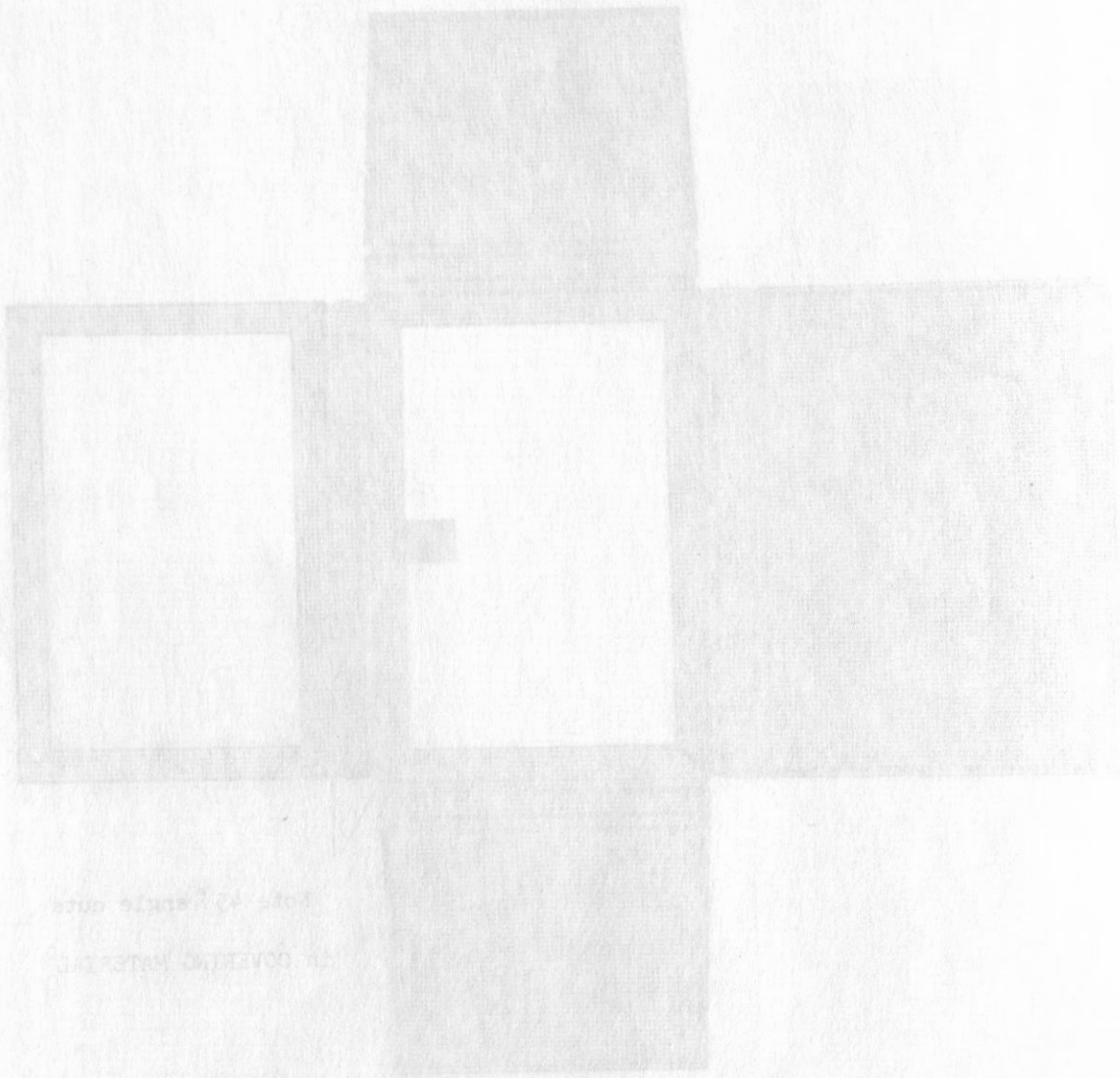
Illustration of number and placement of TIES



LINING THE INTERIOR OF THE PORTFOLIO

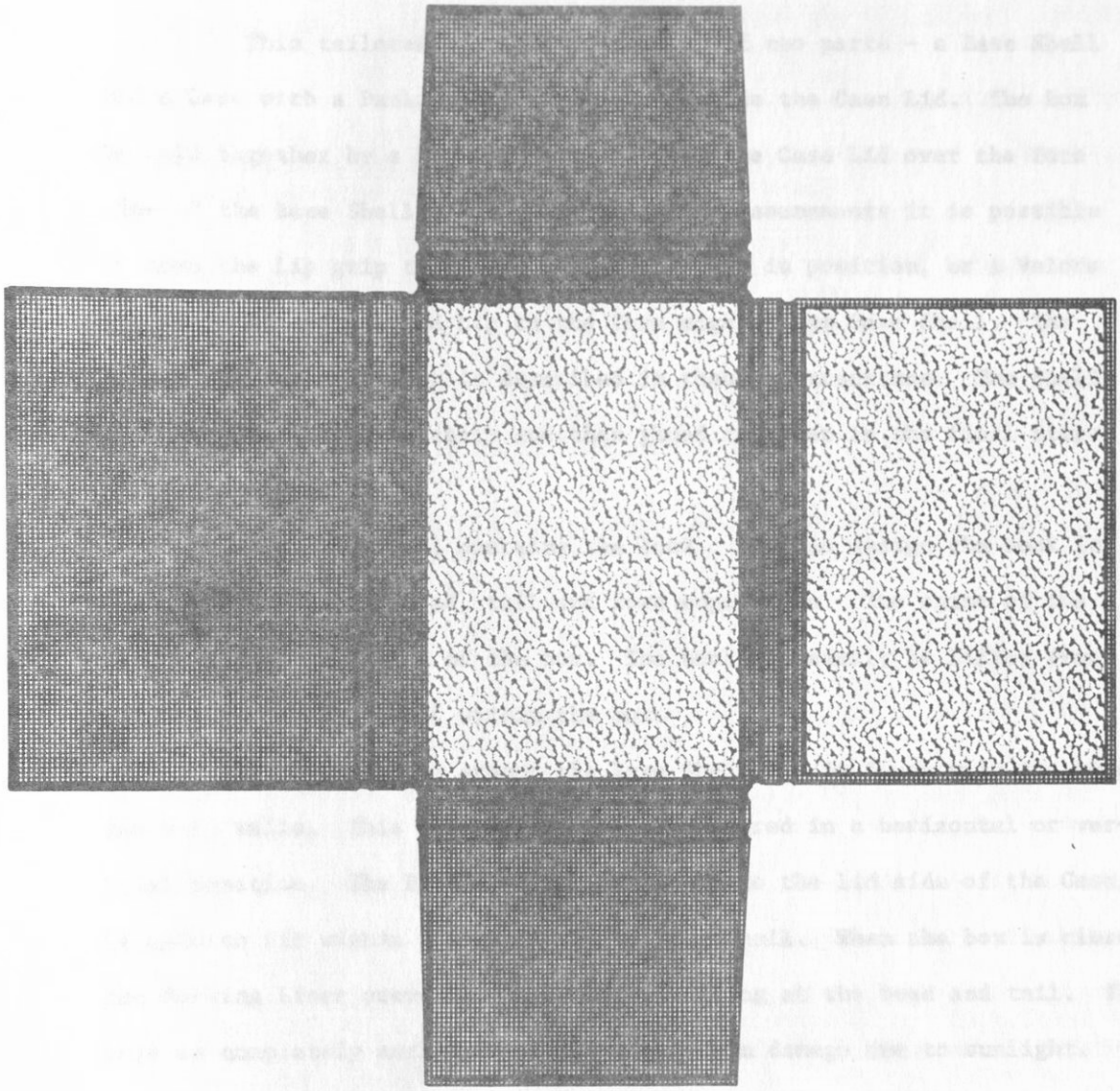
Positioning of COVERING MATERIAL on FLAPS 2 & 3 and on WALL BOARD A





LINING THE INTERIOR OF THE PORTFOLIO

Inside view of completed PORTFOLIO



FORE EDGE GRIP BOX

This tailored book box is made up of two parts - a Base Shell and a Case with a Packing Liner attached inside the Case Lid. The box is held together by a Lip that extends from the Case Lid over the fore edge of the Base Shell. With very accurate measurements it is possible to have the Lip grip the Base Shell and remain in position, or a Velcro fastener can connect the Lip to the fore edge of the Base Shell. The use of a Velcro fastener is described in these instructions. The Shell and Case are made separately and then glued together in the final steps of construction.

The Base Shell contains the book. In this design the book is held in place by the head, tail and fore edge walls. The spine of the book rests at the spine of the box. The book can easily be lifted from the box or can be opened within the box.

The Case wraps around the Base Shell and is flush with the head and tail walls. This allows the box to be stored in a horizontal or vertical position. The Packing Liner, attached to the lid side of the Case, is made to fit within the walls of the Base Shell. When the box is closed, the Packing Liner prevents the lid from sliding at the head and tail. The book is completely enclosed and protected from damage due to sunlight.

The listing of materials to be used in making this box follows:

(cont'd) FORE EDGE GRIP BOX

ADHESIVE: An internally-plasticized polyvinyl acetate aqueous emulsion

or

BOARD: Any neutral pH/alkaline board of suitable durability and permanence

COVERING MATERIAL: Starch-filled buckram

FASTENER: Velcro Hook and Loop Tape with adhesive coated backing
Velcro Hook and Loop Tape without adhesive coated backing
Tube of Velcro Adhesive #45

FILLER BOARDS: Scrap board cut to inner dimensions of BASE and/or LID SHELLS. A sufficient quantity is needed to fill the SHELL(S) and extend 3/4" above the walls.

LINING MATERIAL: Handmade paper of neutral color or
"Permalife" paper or
Felt of neutral color

PAPER - Bonding/Filler Paper:
A paper of similar color to the COVERING MATERIAL, used to cover the bottom of the BASE and/or LID SHELL to effect a good bond between the SHELL and the CASE.

Before constructing a FORE EDGE GRIP BOX certain basic decisions must be made about the thicknesses of various components of the box, which relate to the size and the weight of the book to be enclosed. A Measuring Kit (See General Information) of the various combinations of boards, coverings and linings should be made for ease of measuring throughout the construction of the box. Once these materials have been chosen, carry out the following steps as designated in the Operational Sequence.

(cont'd) FORE EDGE GRIP BOX

OPERATIONAL SEQUENCE:

I. BASE SHELL

A. MEASURING AND CUTTING BOARDS FOR BASE SHELL
B. ASSEMBLING BOARDS TO MAKE BASE SHELL
C. COVERING TECHNIQUE OF BASE SHELL

II. CASE AND ATTACHMENT OF LIP BOARDS

A. MEASURING AND CUTTING BOARDS FOR CASE
B. MEASURING, CUTTING AND ATTACHING LIP BOARDS
C. COVERING TECHNIQUE OF CASE

III. PACKING LINER

A. MEASURING, CUTTING AND MAKING UP THE PACKING LINER
B. COVERING THE PACKING LINER

IV. GLUING BASE SHELL, CASE AND PACKING LINER TOGETHER

A. GLUING BASE SHELL TO CASE
B. GLUING PACKING LINER TO CASE
C. ATTACHMENT OF FASTENER TO BASE SHELL

V. LINING THE INTERIOR OF THE BOX

A. MEASURING, CUTTING AND GLUING OUT LINING MATERIAL

I. BASE SHELL

This BOX was originally designed with the LINING MATERIAL being the same as the COVERING MATERIAL. If a different material is decided upon for the LINING MATERIAL, then the instructions listed below for the dimensions of the BASE BOARD must be altered to allow for the thickness of this LINING MATERIAL. Add on the thicknesses listed in parentheses. Compare diagrams 12 & 13.

A. MEASURING AND CUTTING BOARDS FOR BASE SHELL

See diagrams 1 & 2. The shaded area indicates the dimensions of the BASE BOARD of the BASE SHELL. Accurate cutting to give 90^{o} angles at corners is essential.

(cont'd) FORE EDGE GRIP BOX

1. BASE BOARD

Length, head to tail: Length of BOOK,
plus 2 thicknesses of COVERING MATERIAL,
plus 2 thicknesses of BOARD
plus 2-3 thicknesses of COVERING MATERIAL for clearance
(plus 2 thicknesses of LINING MATERIAL)

Width, spine to fore edge: Width of BOOK,
plus 1 thickness of COVERING MATERIAL,
plus 1 thickness of BOARD,
plus 2-3 thicknesses of COVERING MATERIAL for clearance
(plus 2 thicknesses of LINING MATERIAL - one thickness will be attached to spine wall of CASE; the other to fore edge wall of SHELL)

Cut one BOARD

2. WALL BOARDS of BASE SHELL

See diagrams 1, 2 & 3

Remember that the walls are made up of boards designated INSIDE and OUTSIDE. All INSIDE BOARDS attach to the top of the BASE BOARD. ALL OUTSIDE BOARDS attach to the outside edges of the BASE BOARD.

Height of BASE SHELL walls

INSIDE BOARDS: Height is equal to the height of the BOOK,
(Do not exert pressure on the BOOK to determine its height. This BOX will not effectively contain a BOOK that needs pressure such as a vellum covered book.)
plus 2 thicknesses of BOARD,
plus
- 4 thicknesses of COVERING MATERIAL (if lining with COVERING MATERIAL)

  or

- 1 thickness of COVERING MATERIAL
  plus 3 thicknesses of LINING MATERIAL (if lining with a material other than the COVERING MATERIAL)

Cut 3 BOARDS this size with their lengths approximately 3/4" longer than the BASE BOARD.

OUTSIDE BOARDS: Height is equal to the height of the INSIDE BOARDS plus 1 thickness of BOARD

Cut 3 BOARDS this size with their lengths approximately 3/4" longer than the BASE BOARD.

(cont'd) FORE EDGE GRIP BOX

Length of BASE SHELL walls

Cut the 3 INSIDE BOARDS and the 3 OUTSIDE BOARDS the following lengths:

Head and Tail Walls: Two INSIDE BOARDS equal to width of BASE BOARD

Two OUTSIDE BOARDS equal to width of BASE BOARD plus 1 thickness of BOARD

Fore-edge Wall: One INSIDE BOARD equal to length of BASE BOARD minus 2 thickness of BOARD

One OUTSIDE BOARD equal to length of BASE BOARD

Mark each BOARD either "INSIDE or "OUTSIDE".

B. ASSEMBLING BOARDS TO MAKE BASE SHELL

Glue the INSIDE BOARDS to the corresponding OUTSIDE BOARDS in the correct patterns as shown in diagram 3. Press these BOARDS together.

Glue the assembled WALL BOARDS together forming the STEP-JOINTED CORNERS as shown in diagram 3.

Glue BASE BOARD edges and attach to WALL BOARDS.

C. COVERING TECHNIQUE OF BASE SHELL

1. CUTTING, GLUING OUT AND TURNING IN THE COVERING MATERIAL FOR THE BASE SHELL WALLS

a. The outside of the BASE SHELL is covered with one piece of COVERING MATERIAL wrapped around the three walls. See diagram 4. The dimensions of this piece are:

Length: Distance around the outside of the walls of the BASE SHELL plus 1 1/2"

Width: The width is determined by the design of the BOX. See diagram 4.

If lining the SHELL with the same COVERING MATERIAL as the outside, the measurement for the width of this strip is obtained by doubling the height measurement of the walls plus 1 1/2" for turn-ins.

If lining the SHELL with a different material (such as felt), the measurement for the width of this strip is the height measurement of the walls plus 1 1/2" for turn-ins.

Glue out the COVERING MATERIAL and adhere to the outside of the walls of the BASE SHELL. The cloth strip is positioned so that 3/4" extends below the bottom and beyond the spine edges of the BASE SHELL walls.

b. BASE SHELL bottom fore edge turn-ins:
Turn the SHELL over and cut the COVERING MATERIAL of the two bottom fore edge corners as shown in diagram 5.

After cutting the COVERING MATERIAL at the corners, re-glue the unattached COVERING MATERIAL and turn in.

c. BASE SHELL wall turn-ins:
Follow the directions for cutting the COVERING MATERIAL at Corners "A" and "B" as found in diagrams 5, 6 & 7.

Glue out and turn in all tongues (T's). Then follow numerical sequence for gluing out and turning in flaps (F's) as shown in diagrams 8 or 9.

2. CUTTING, GLUING OUT AND ADHERING COVERING MATERIAL FOR INSIDE OF BASE SHELL FLOOR OR SPINE EDGE

a. The inside of the BASE SHELL (depending on the design of the BOX) may be completely lined with COVERING MATERIAL. If so, cut a piece of COVERING MATERIAL to completely cover the inside base of the now covered BASE SHELL and to wrap around the spine edge. See diagram 8.

Length: Inside head to tail distance

Width: Inside spine to fore edge distance plus 1"

If lining the inside of the SHELL with a different material (such as felt), only the exposed spine edge of the BASE SHELL must be covered with the COVERING MATERIAL. See diagram 9.

Length: Inside head to tail distance

Width: Approximately 1 1/2":

b. Glue out and adhere appropriate piece of COVERING MATERIAL either to completely cover floor of SHELL and wrap around the spine edge or for spine edge only. If for the latter, center the strip on the spine edge and after adhering, make four 45° angle cuts at head and tail inside and underneath as shown in diagram 9.

3. COVERING UNDERSIDE OF BASE SHELL
Cut a piece of PAPER (Bonding/Filler) 1/8" smaller on all four sides than the underside of the BASE SHELL, and similar in color to the COVERING MATERIAL, and glue it into place. The purpose of this PAPER is to effect a good bond between the SHELL and the CASE.

The BASE SHELL is now completed except if lining the interior with a different material from the COVERING MATERIAL. Do not proceed with lining until steps II, III and IV have been completed.

II. CASE AND ATTACHMENT OF LIP BOARDS

A. MEASURING AND CUTTING BOARDS FOR CASE

See diagram 10.
Note: All boards for the CASE are the same thickness.

1. BASE and LID CASE BOARDS
Take covered BASE SHELL and place it on larger BOARDS. Mark the following dimensions. It is very important to measure this accurately.

Length, head to tail:	Measured head to tail distance of covered BASE SHELL
Width, spine to fore-edge:	Measured width of covered BASE SHELL, plus 2 thicknesses of BOARD, plus 2 thicknesses of COVERING MATERIAL
	Cut two BOARDS this size.

2. SPINE CASE BOARD

Length, head to tail:	Same length measurement as above
Width:	Equals height of covered BASE SHELL minus 3 thicknesses of COVERING MATERIAL
	Cut one BOARD.

B. MEASURING, CUTTING AND ATTACHING LIP BOARDS

The completed LIP consists of 3 BOARDS as shown in diagram 11.

1. Two INSIDE LIP BOARDS

Length, head to tail: Same as head to tail measurement of CASE BOARDS

Width: Appropriate to height of BOX, approximately 1/3 of the height

Cut two BOARDS

2. One OUTSIDE LIP BOARD

Length, head to tail: Same as above

Width: Same as above plus 1 thickness of BOARD

Cut one BOARD.

Glue these three BOARDS together, flush at one long edge.

At center of inside of assembled LIP BOARDS, cut out a notch for the VELCRO that will be glued into place there. Note - with very accurate measurements it is possible to have the LIP grip the BASE SHELL and remain in position without the aid of the VELCRO. If that is decided upon, do not notch the BOARD or adhere the VELCRO.

Attach LIP to fore edge of LID BOARD of CASE forming a STEPPED JOINT as shown in diagram 11.

Cut VELCRO (Velcro Tape w/o adhesive coated backing) twice the width of the LIP plus a minimum of 1 1/2" to extend onto LID CASE BOARD.

Glue out VELCRO and place on LID BOARD as shown in diagram 11.

C. COVERING TECHNIQUE OF CASE

1. CUTTING AND GLUING OUT COVERING MATERIAL FOR CASE

Take off the sharp tips of the fore edge corners of the BASE CASE BOARD. Place the three BOARDS in position as shown in diagram 10.

The correct width of the joint is hard to determine accurately. The following dimension is a minimum measurement, and through experience more accurate measurements will be found.

JOINT width: Equal to the thickness of board used in CASE plus 5 thicknesses of COVERING MATERIAL (Note BOARD and COVERING MATERIAL that was glued together for the MEASURING KIT.)

(cont'd) FORE EDGE GRIP BOX

a. Cut one piece of COVERING MATERIAL with approximately 3/4" turn-in at head, tail and BASE fore edge side; at LID fore edge side, where the LIP is attached, remember to have enough COVERING MATERIAL to completely cover LIP and extend onto inside of LID BOARD.

Length, head to tail: Equal to length of BOARDS plus 1 1/2"

Width: Equal to combined widths of the 3 BOARDS, plus widths of 2 joints, plus adequate coverage of LIP, plus 3/4"

b. Cut another piece of COVERING MATERIAL that will cover the inside of SPINE CASE BOARD and extend onto BOARDS on either side. The dimensions of this piece are:

Length, head to tail: Equal to inside length of covered BASE SHELL

Width: Equal to width of SPINE CASE BOARD plus widths of 2 joints, plus 3/4" extension onto both the BASE and LID CASE BOARDS.

Glue out the larger piece of COVERING MATERIAL and adhere the three BOARDS including the outside of the LIP.

2. CUTTING AND GLUING OUT COVERING MATERIAL FOR TURN-INS
Four outside corner turn-ins:
Follow the directions for cutting the COVERING MATERIAL at the corners and gluing out turn-ins that are found in diagrams 10 & 11.

After cutting the COVERING MATERIAL at the corners, re-glue the unattached COVERING MATERIAL and turn in.

3. COVERING INSIDE OF SPINE CASE BOARD
Glue out the SPINE COVERING PIECE and place it on the SPINE CASE BOARD equidistant from head and tail
See diagram 10.

The CASE is now completed

III. PACKING LINER

A. MEASURING, CUTTING AND MAKING UP THE PACKING LINER

The PACKING LINER (after being attached to the LID BOARD) will fit inside the inner wall dimensions of the covered BASE SHELL. See diagram 1. The dimensions are:

Length, head to tail: Equal to the inside length measurement of covered BASE SHELL
minus 4 thicknesses of COVERING MATERIAL (or LINING MATERIAL, if different) (2 thicknesses are for clearance)

Width, spine to fore edge: Equal to inside width measurement of covered BASE SHELL
minus 4 thicknesses of COVERING MATERIAL (or LINING MATERIAL, if different) (2 thicknesses are for clearance)

Cut two BOARDS.

Glue out one BOARD and attach it to the other. Mark the outside of the BOARD which is glued out. In a future step that side of the PACKING LINER should be adhered to the CASE in order to prevent any possible warping of the lid side of the BOX.

After gluing, leave the BOARDS under pressure for a minimum of 10 minutes.

B. COVERING THE PACKING LINER

The PACKING LINER is covered with one piece of COVERING MATERIAL OR LINING MATERIAL wrapped around the four edges.

1. When the LINING MATERIAL is the same as the COVERING MATERIAL of the BOX:

Cut one piece of COVERING MATERIAL to cover the PACKING LINER allowing for 1" turn-ins on all sides.
Glue out COVERING MATERIAL and attach PACKING LINER.
Cut corners of COVERING MATERIAL as shown in diagram 10.
Re-glue unattached COVERING MATERIAL and turn in.

If necessary, fill in the back of the PACKING LINER within the 1" turn-ins in order to form an even surface for adhering the PACKING LINER to the lid side of the CASE.

(cont'd) FORE EDGE GRIP BOX

2. When the LINING MATERIAL is different from the COVERING MATERIAL of BOX (such as FELT):

Cut unlined FELT (See V A. MEASURING, CUTTING AND GLUING OUT FELT for a discussion about when to line FELT,) to cover the PACKING LINER allowing for 1" turn-ins. Glue out unmarked side of the PACKING LINER and adhere FELT. (Note: Do not glue out directly on the FELT as ADHESIVE may strike through the material.)
Cut the corners of the FELT as shown in diagram 10.
To adhere the FELT turn-ins, glue out turn-in area on the back of the PACKING LINER and attach the FELT.

If necessary, fill in the back of the PACKING LINER within the 1" turn-ins in order to form an even surface for adhering the PACKING LINER to the lid side of the CASE.

IV. GLUING BASE SHELL, CASE AND PACKING LINER TOGETHER

A. GLUING BASE SHELL TO CASE

Glue out the bottom of the covered BASE SHELL and position it on the BASE CASE BOARD so that the SHELL is flush with head and tail and flush with the spine edge of the BASE CASE BOARD. If you have positioned the BASE SHELL correctly, when the CASE is closed, the SPINE CASE BOARD should be vertical and touching the spine edge of the SHELL walls.

Find appropriate FILLER BOARDS to fit within the SHELL and to extend at least 3/4" above the walls of the SHELL. Place filled SHELL in press and leave under pressure a minimum of 20 minutes.

B. GLUING PACKING LINER TO CASE

Glue out the underside of the PACKING LINER and adhere to the LID BOARD of the CASE. The correct placement of the PACKING LINER is very important. The distance the PACKING LINER should be placed from the LIP is determined by the thickness of the covered fore edge wall of the BASE SHELL. Determine the thickness and place the PACKING LINER that distance from the LIP and equidistant from the head and tail of the LID BOARD.

After gluing out and placing the PACKING LINER in the correct position, leave it under pressure for a minimum of 30 minutes or until dry and firmly adhered.

(cont'd) FORE EDGE FRIP BOX

C. ATTACHMENT OF FASTENER TO BASE SHELL

A circular piece of adhesive coated VELCRO is glued , using its special adhesive, to the fore edge wall of the BASE SHELL centered in the correct position as shown in diagram 1.

The BOX with LINING MATERIAL the same as the COVERING MATERIAL is now completed. See diagram 12. Remember to allow BOX to dry completely before inserting BOOK.

V. LINING THE INTERIOR OF THE BOX

Follow these directions if you have planned to line the interior of the BOX with a different material from the COVERING MATERIAL.

A. MEASURING, CUTTING AND GLUING OUT THE LINING MATERIAL

In these directions FELT is used as the LINING MATERIAL. When the FELT is going to be used to cover flat areas such as the floor of the BASE SHELL and the walls, it is recommended that the FELT be lined with a similar colored PAPER and then cut to size. The PAPER lining allows for more accurate cutting. Always glue out the PAPER rather than the FELT to prevent the ADHESIVE from striking through the FELT.

When the FELT has to be molded around a thickness of BOARD (like the PACKING LINER), it is recommended that the FELT not be lined. It is hard to accurately mold the FELT around such a thickness of BOARD if it is lined with PAPER.

1. LINING the BASE SHELL

a. Floor of BASE SHELL
Cut lined FELT to the exact size of the BASE SHELL floor.
Glue out lined FELT and adhere to BASE floor.

b. Interior walls of BASE SHELL
Cut lined FELT to fit the inside of walls of the BASE SHELL.

Width of lined FELT: Equal to height of BOOK

Length of lined FELT: Equal to length of walls leaving 1/16" of COVERING MATERIAL exposed at the SPINE WALL edges

Glue out lined FELTS and adhere to inside of walls.

(cont'd) FORE EDGE GRIP BOX

2. LINING the SPINE CASE BOARD

Cut lined FELT to the following dimension:

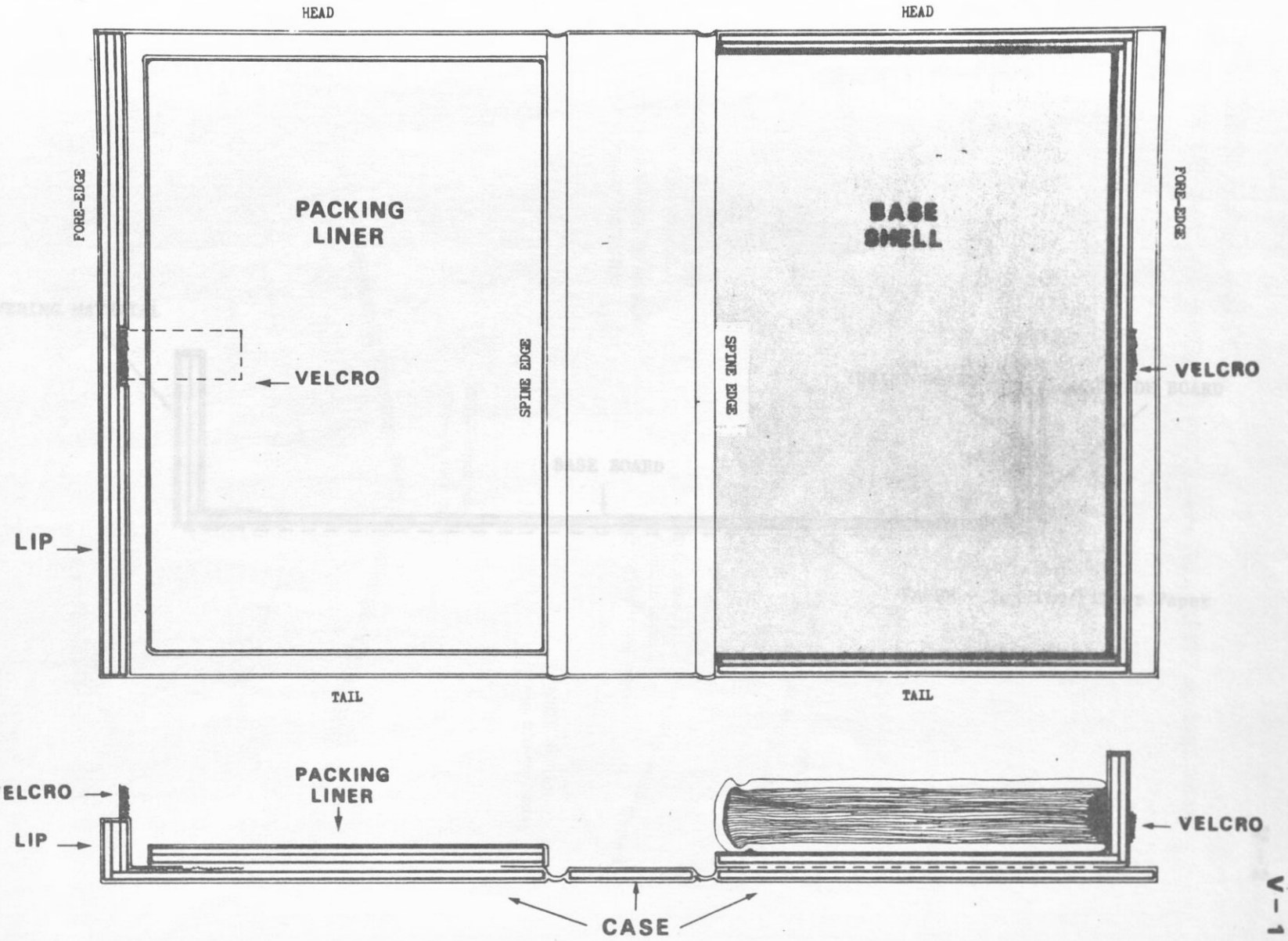
Length, head to tail: Equal to head to tail measurement of covered PACKING LINER

Width: Equal to height of BOOK minus 1/8"

Glue out lined FELT piece and place equidistant from head and tail, and in the center of the SPINE CASE BOARD.

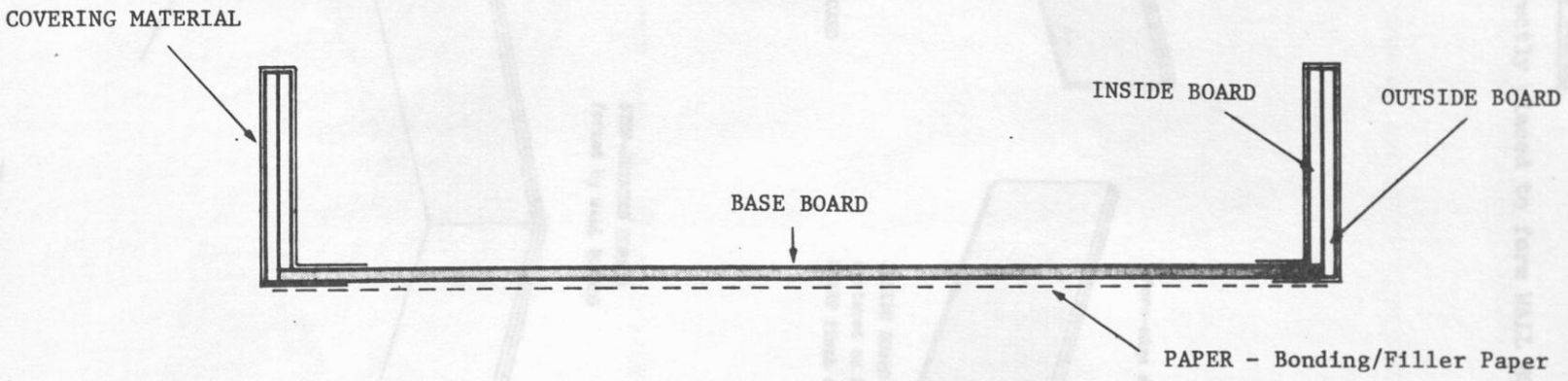
The BOX with LINING MATERIAL different from the COVERING MATERIAL is now completed. See diagram 13. Remember to allow BOX to dry completely before inserting BOOK.

PLAN OF OPENED FORE-EDGE GRIP BOX



V-1

SPINE ELEVATION OF BASE SHELL

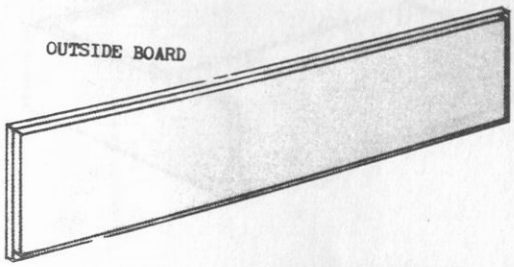


ASSEMBLING BOARDS TO MAKE BASE SHELL

INSIDE and OUTSIDE BOARDS correctly placed to form WALL BOARDS of BASE SHELL

Head WALL BOARD pattern

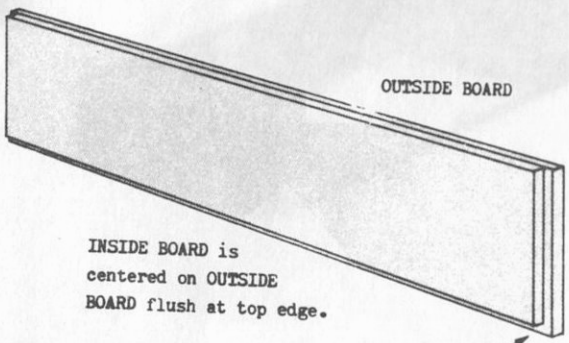
Tail WALL BOARD pattern is a mirror image of the Head WALL BOARD pattern.



INSIDE BOARD is placed flush at top edge and left edge.

For mirror image make INSIDE BOARD flush at top and right edge.

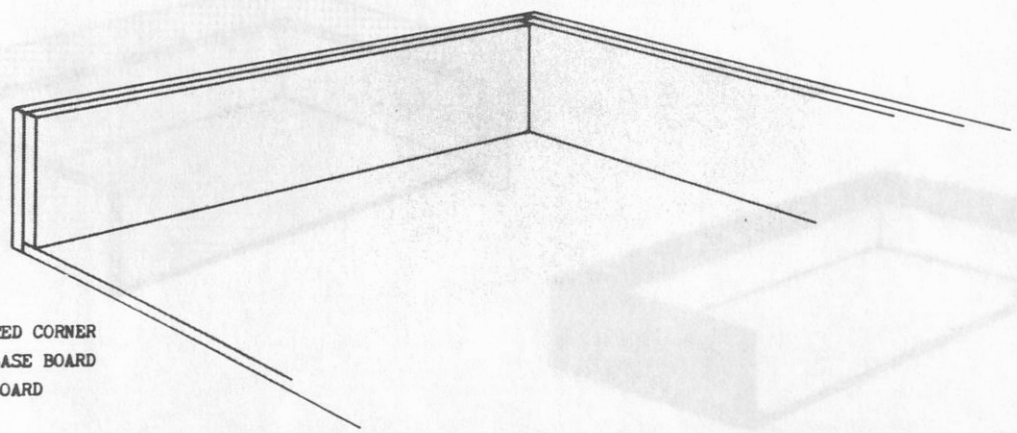
Fore-edge WALL BOARD pattern



INSIDE BOARD is centered on OUTSIDE BOARD flush at top edge.

BASE BOARD will fit into this STEPPED JOINT.

STEP-JOINTED CORNER formed by WALL BOARDS

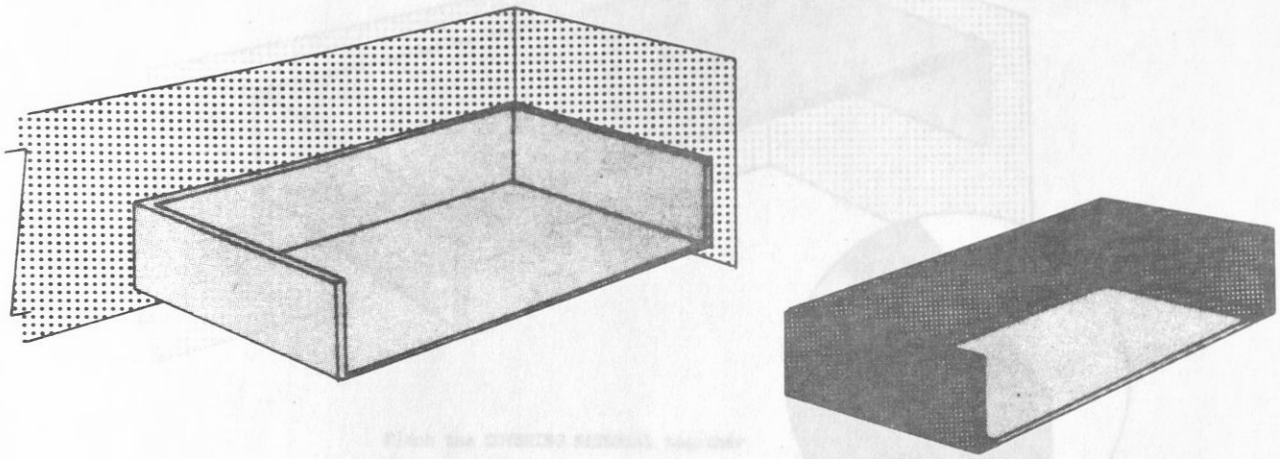


STEP-JOINTED CORNER formed by BASE BOARD and WALL BOARD

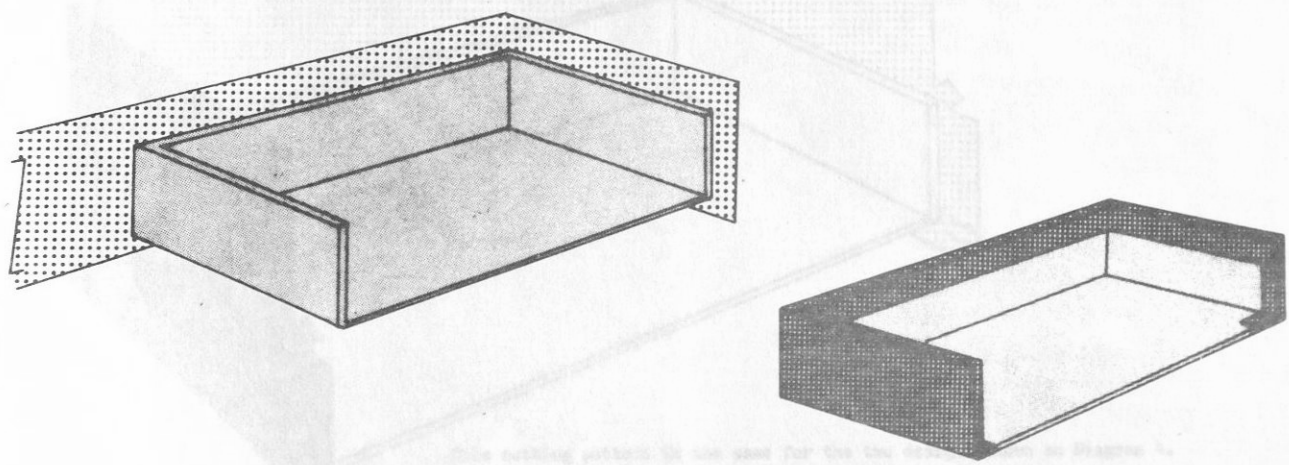
COVERING TECHNIQUE of BASE SHELL

Determining the width measurement of the COVERING MATERIAL for the walls of the BASE SHELL

LINING MATERIAL the same as the COVERING MATERIAL

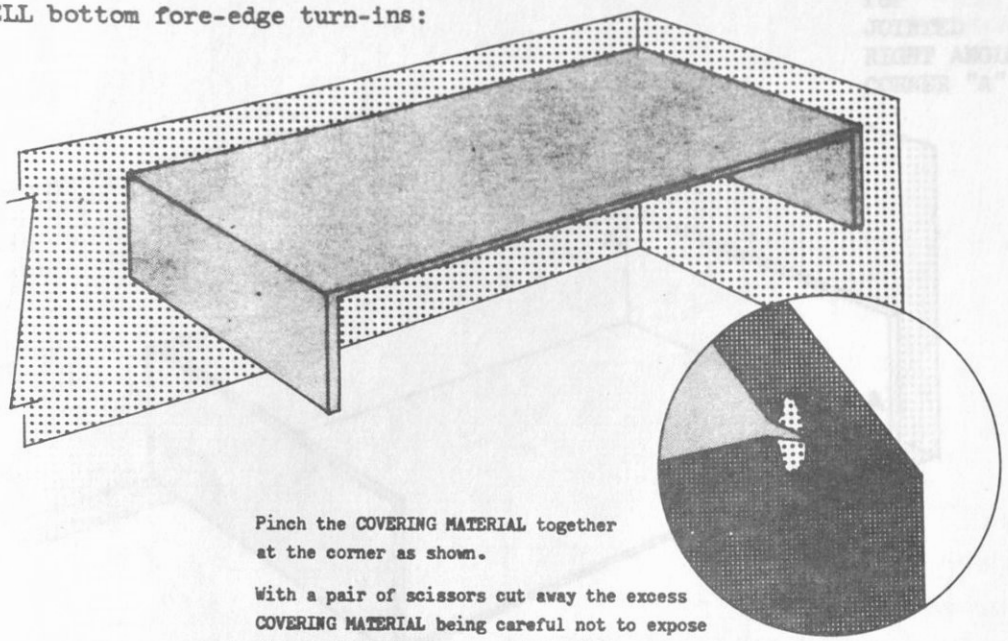


LINING MATERIAL different from the COVERING MATERIAL



COVERING TECHNIQUE of BASE SHELL

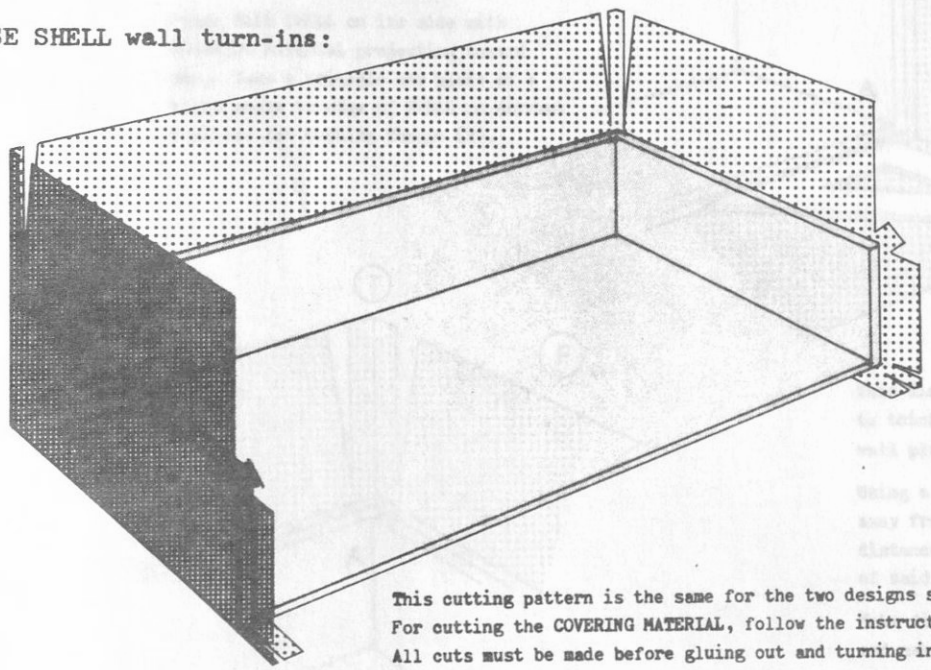
BASE SHELL bottom fore-edge turn-ins:



Pinch the COVERING MATERIAL together at the corner as shown.

With a pair of scissors cut away the excess COVERING MATERIAL being careful not to expose the BOARD at the corner of the SHELL.

BASE SHELL wall turn-ins:

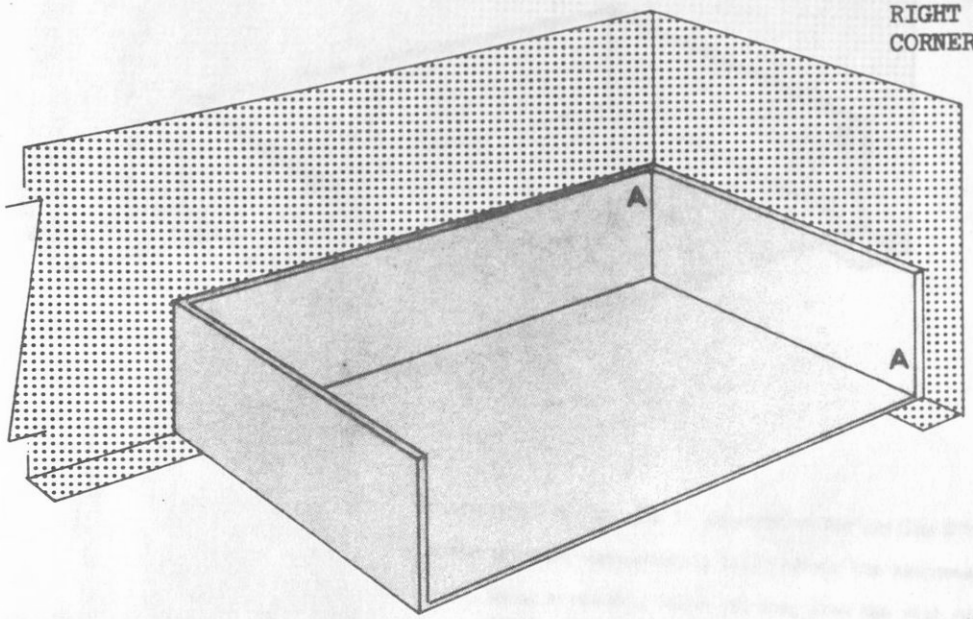


This cutting pattern is the same for the two designs shown on Diagram 4.
For cutting the COVERING MATERIAL, follow the instructions in Diagrams 6 & 7.
All cuts must be made before gluing out and turning in.

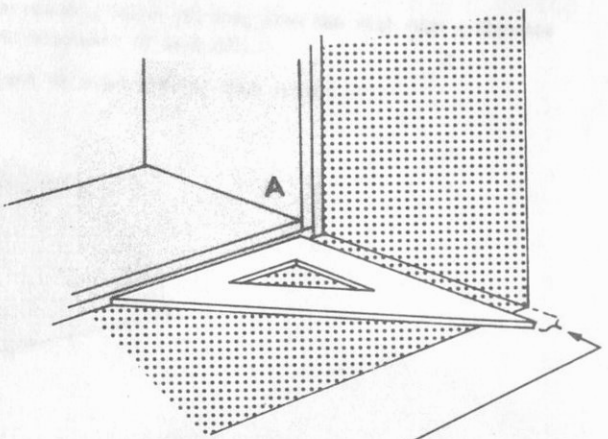
T = Tongue

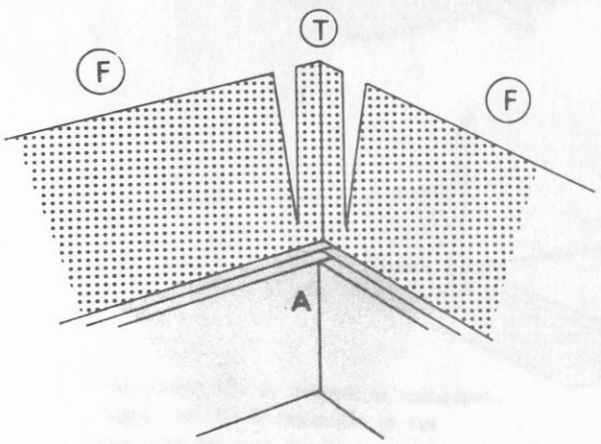
F = Flap

Cutting COVERING MATERIAL
for
JOINTED
RIGHT ANGLE
CORNER "A"



Place BASE SHELL on its side with COVERING MATERIAL projecting toward you. Take a triangle and place at a right angle to edge of SHELL in correct position for cutting Tongue (T).





This distance is equal to thickness of vertical wall plus a fraction.

Using a scalpel, start cut away from wall edge a distance equal to thickness of said wall.

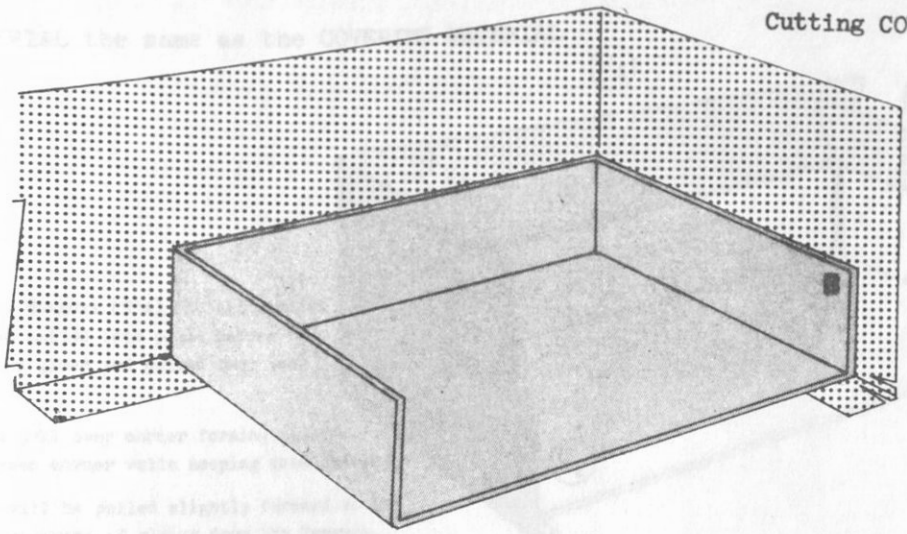
Make first cut, shift SHELL and make second cut same as first.

A

A

A

Cutting COVERING MATERIAL
for
FLAT
RIGHT ANGLE
CORNER "B"

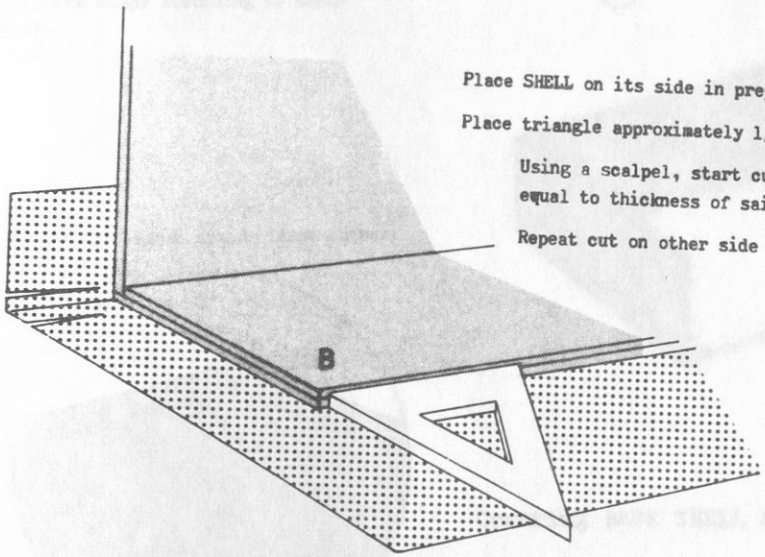


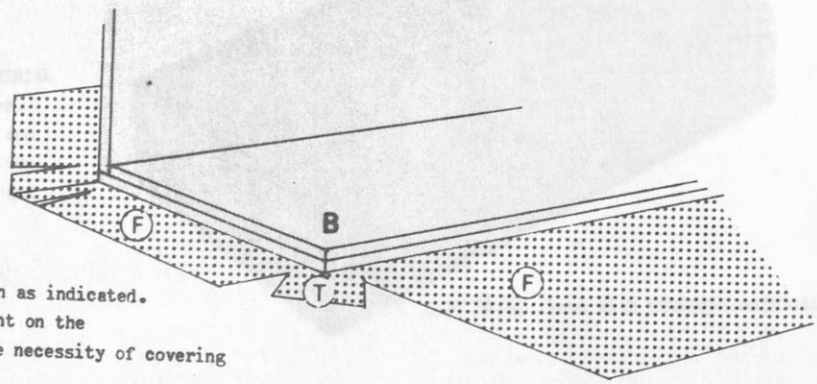
Place SHELL on its side in preparation for cutting COVERING MATERIAL.

Place triangle approximately 1/16" within the projected wall line.

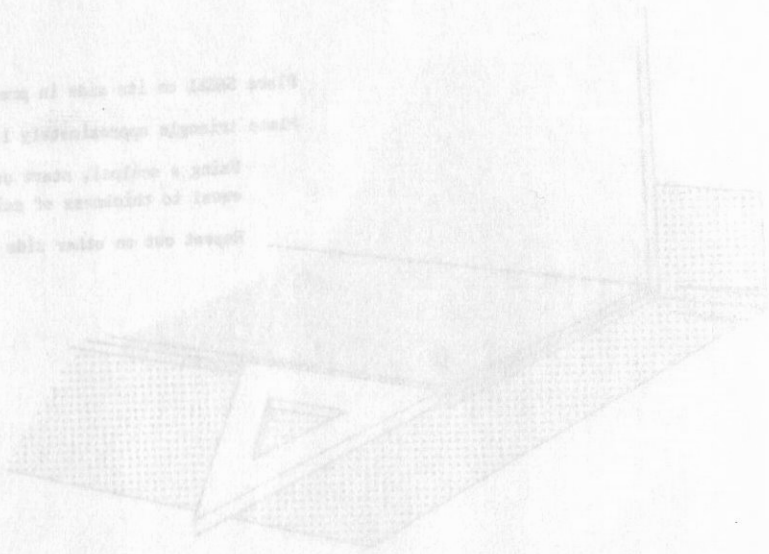
Using a scalpel, start cut away from the wall edge a distance equal to thickness of said wall.

Repeat cut on other side of flat corner.



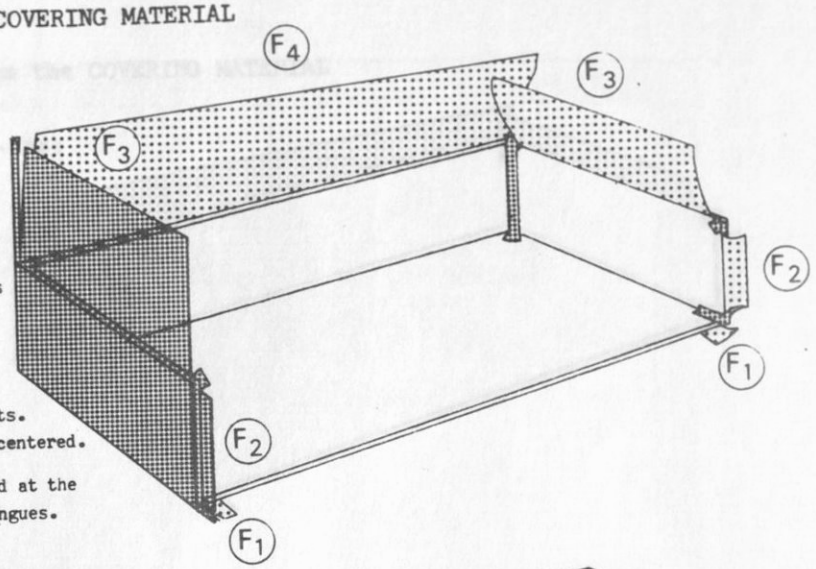


Cut Tongue (T) in pattern as indicated.
Length of (T) is dependent on the
thickness of wall and the necessity of covering
corner tip comfortably.



COVERING TECHNIQUE of BASE SHELL

LINING MATERIAL the same as the COVERING MATERIAL

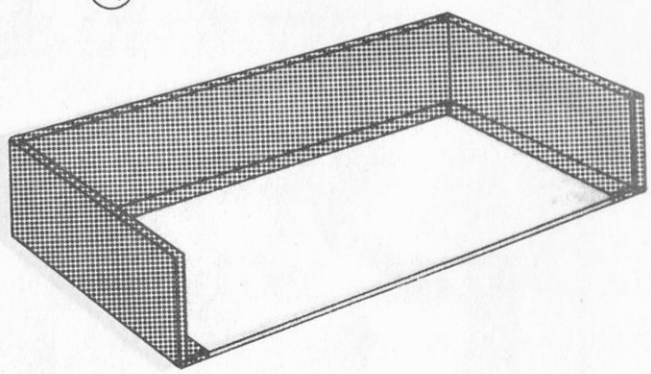


Remember that all Tongues (T's) for all corners must be glued and pulled into place before the Flaps (F's) can be glued and pulled over into place.

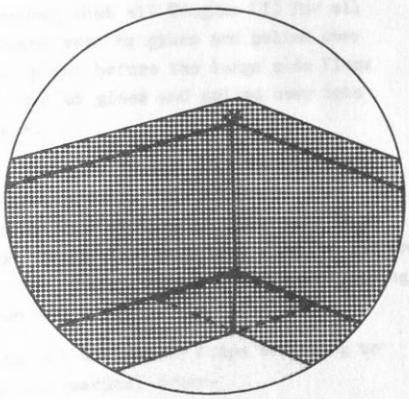
Glue Tongues and pull over corner forming pleats. Extend Tongues down corner walls keeping them centered.

Note that Flaps will be pulled slightly forward at the corners as a consequence of gluing down the Tongues.

Glue out and adhere Flaps according to their numerical order.

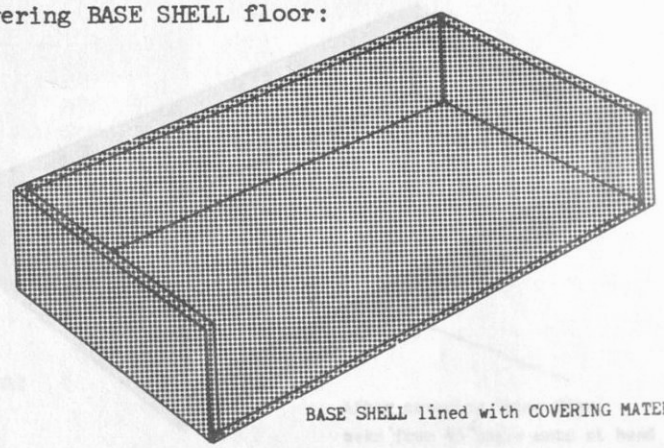


To neatly fininsh inside floor corner:



Cut through two layers of COVERING MATERIAL bisecting the right angle at the corner. Remove excess from top layer, lift up and pull away excess underneath. Replace top layer so that COVERING MATERIAL butts and the surface is level.

Covering BASE SHELL floor:



BASE SHELL lined with COVERING MATERIAL